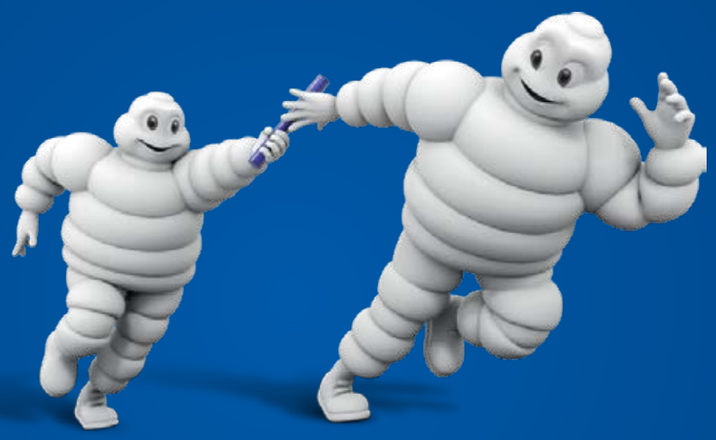


http://transport.michelin.com.au

MICHELIN
A better way forward

MICHELIN Retread, just Like **New**.

MICHELIN
A better way forward

Why Choose Michelin?

Over 100 years of truck tyre innovation to improve your bottom line!

1889 ▶ First **Michelin tyres**

1920's ▶ First **Michelin Retread**

1952 ▶ **First truck radial**

1977 ▶ First TRUCK equipment: in **tubeless** 22.5

1986 ▶ **First with low profile** truck tyre, 65 Series

1994 ▶ First **MICHELIN ENERGY™** truck tyres

2000 ▶ **MICHELIN X One** **First single truck tyre** to replace dual tyres

2003 ▶ First **Anti Splash** deflector

2005 ▶ **MICHELIN** Durable Technologies

TODAY

MICHELIN continues to be a leader in :

INNOVATION

SAFETY

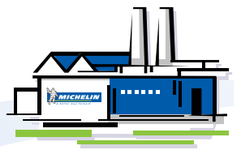
COST SAVING

FUEL SAVING

RELIABILITY

Choose Michelin & Ride Again On Michelin

Michelin Retread reflects the same quality as your new Michelin Tyre.



Michelin Retread

just like New

MICHELIN Accreditation

MICHELIN Quality & Safety

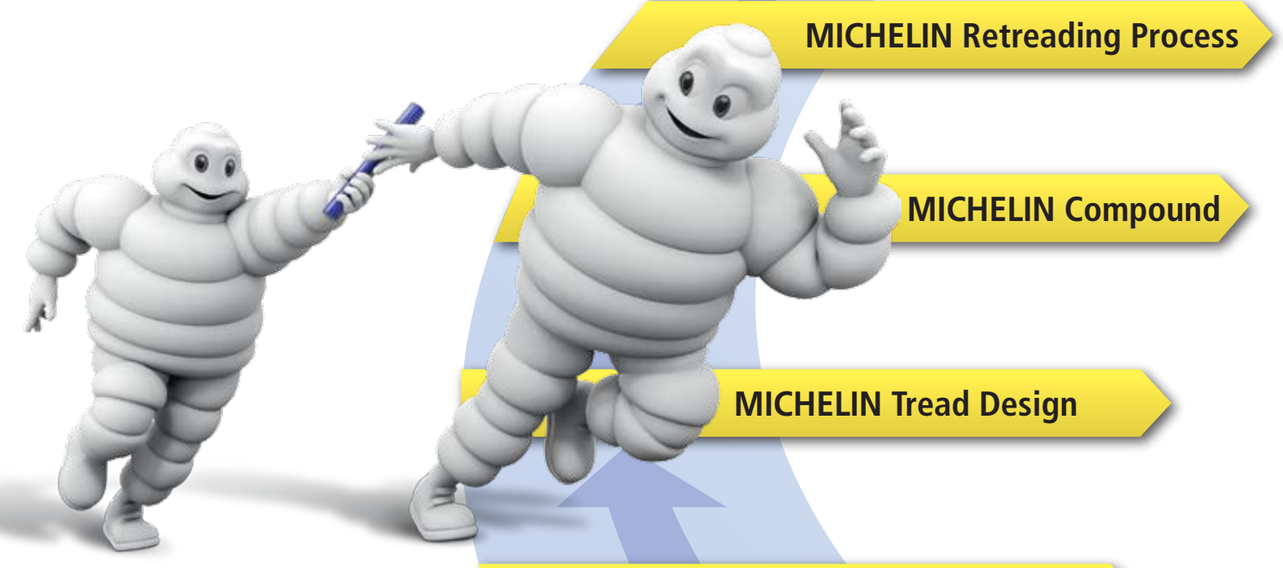
MICHELIN Retreading Process

MICHELIN Compound

MICHELIN Tread Design

MICHELIN Casing Knowledge

MICHELIN Innovation & Performance



In Michelin Accreditated Retread Factories, we re-manufacture your used Michelin tyre to new Michelin tyre standards.

- By utilizing Michelin's new tyre technology, the latest tread designs, the same compounds as new tyres and manufacturing processes, we can produce a Michelin retread that measures up to your original performance.
- The attributes that made you choose Michelin new tyres are available in a Michelin retread :

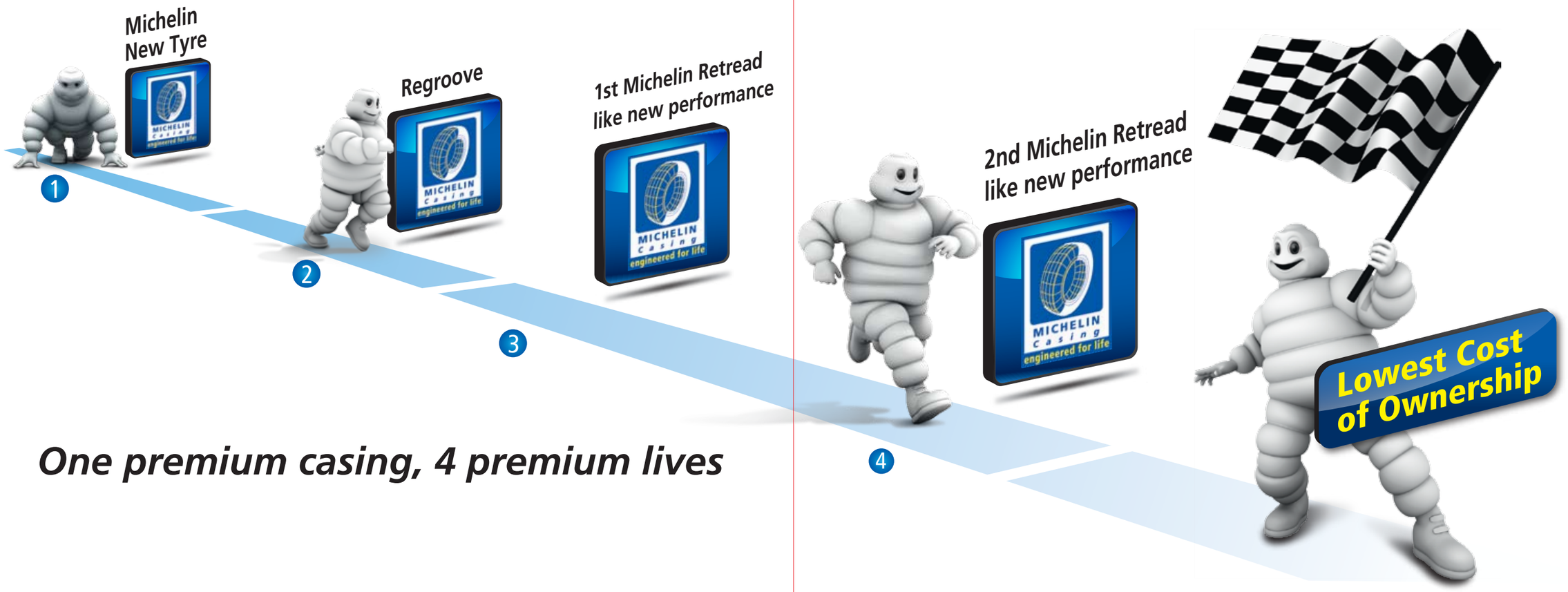
  - Innovation
  - Quality
  - Reliability
  - Performance
  - Lowest cost per kilometer
  - Technical support

Why...

trust anyone else than Michelin for your retread?

Choose Michelin Multi Life

to get the lowest cost of ownership



One premium casing, 4 premium lives

Michelin New Tyre

- By choosing a Michelin new tyre, not only you get the **best tyre performance** but you also invest in a **premium casing** engineered for 4 premium lives.

  Improve your bottom line with Michelin multi life tyres.

Regroove

- Michelin new tyres are designed with an undertread that is thick enough to allow high-quality regrooving without affecting the strength or resistance of the tyre.
- By regrooving Michelin new tyres, you can improve your tyre **performance by +25%** .

Michelin Retread

- **Economical** : premium performance that lasts longer, reduces cost per kilometer, reduces fuel consumption compared with standard retread offers.
- **Reliable & Secure** : 80 years of retreading experience, Michelin process & premium quality, rigorous casing inspection, repair operations, similar tread rubber compound to new, lower running temperature of Michelin Retreads.
- **Environmentally friendly** : reduces number of scrap tyres by re-using the casing for multiple tread lives, less CO2 emissions thanks to lower rolling resistance, complies with regulations on the use of aromatic oils.

Michelin Retread, A Premium Package Inside!

Michelin tread*

Michelin casing

Michelin label

* *When available*

The Michelin casing, engineered for life...

- Bead protection plies.
- Robust casing ply.
- Airtight inner liner.
- Working plies constructed of high tensile steel cables.
- Fully elastic protector ply.
- Thick undertread.

MICHELIN Casing engineered for life

Fitted with a Michelin premium tread

- **Michelin new tyre compounds**
  - Innovative compound technology provides cool running, long lasting performance and lower rolling resistance.
  - Michelin tread, cushion and filling rubber compounds reduce temperature by more than 20% over competitor retread.
  - High percentage of natural rubber lowers rolling resistance and improves fuel economy.
- **Innovative Michelin tread designs**
  - Perfectly matched to your original Michelin casing.
  - Based on advanced Michelin new tyre patterns to deliver equivalent performance and increase driver acceptance.
- **MICHELIN Durable Technologies***
  - Michelin pre-cured tread sipes with double wave to reduce uneven wear, extend life and increase grip.

**Depending on tread design*

Combined with advanced technological resources

- Intensive casing inspection.
- Full control of the continuity of the tread.
- Thorough final inspection including Electronic Nail Hole Detector.

See how it all comes together on page 10&11

Under Michelin Quality System control

- High level of consistency.
- Unparalleled reliability.
- Rigorous procedures.
- Regular audit .

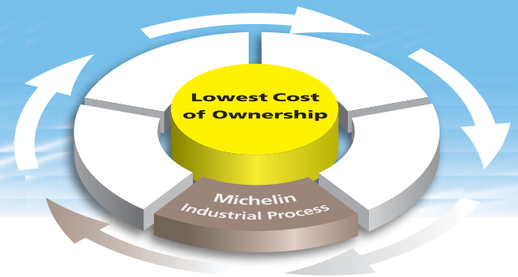
Track the Michelin Quality System for yourself on page page 12&13

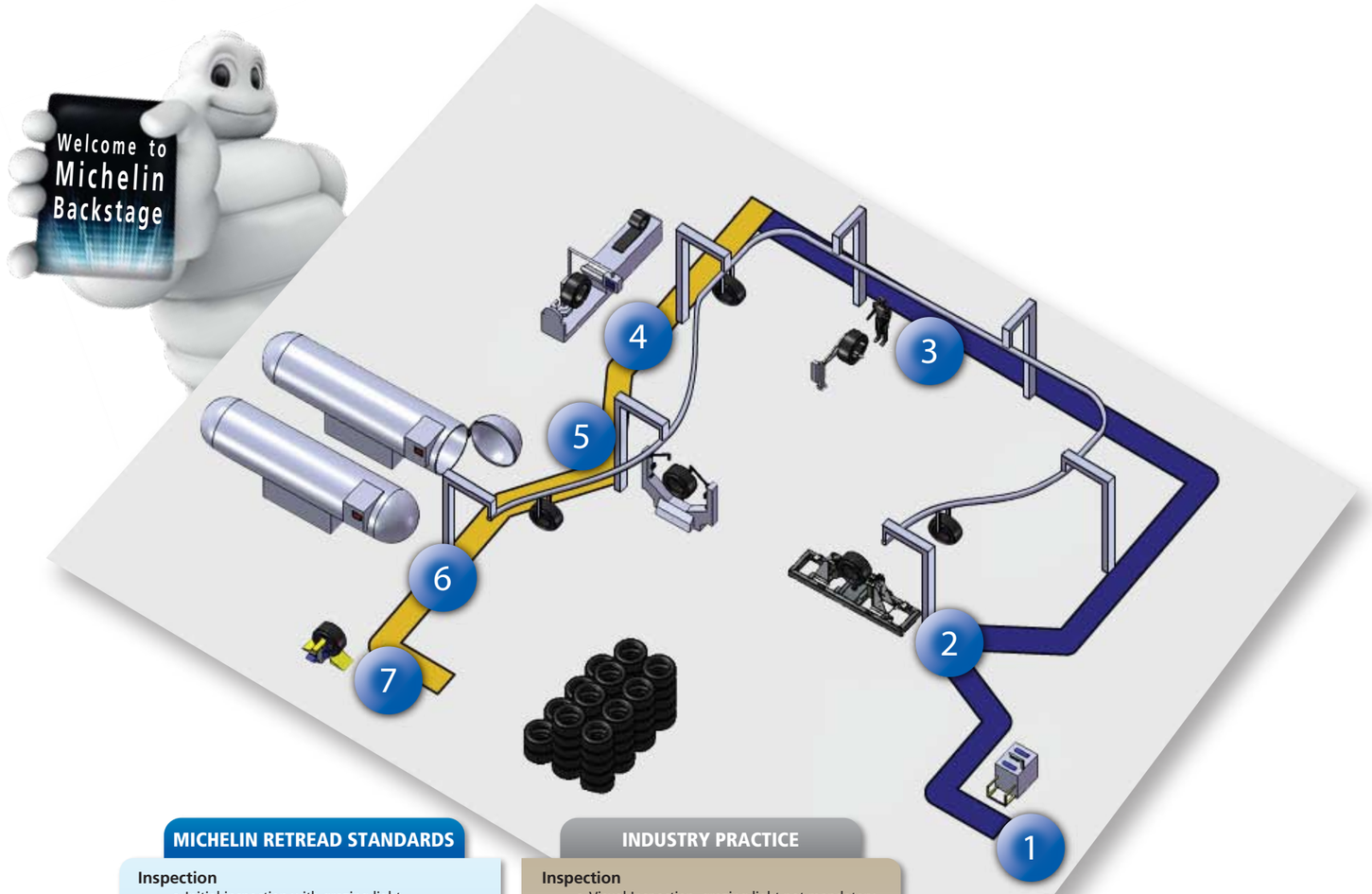
Covered by the Michelin warranty

- Michelin retread tyres are made to rigorous quality standards.
- Every retread tyre manufactured by a Michelin Accredited Retread Factory is warranted.

For further details, please contact your Michelin representative.

Michelin Industrial Process





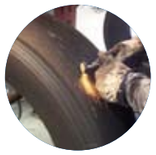
MICHELIN RETREAD STANDARDS	INDUSTRY PRACTICE
Inspection • Initial inspection with grazing light	**Inspection** • Visual Inspection, grazing light not mandatory
Buffing • Full computer control • Controlled buffing profile	**Buffing** • Semi computer control or template
Repair stations • Ergonomic, well-lit	**Repair stations** • Varies widely
Tread building • Computer controlled, precise • Tread matching	**Pre-cured tread building** • Manually measured, stretched/compressed • Manually filled & pattern not continuous
New tyre rubber, new process	**Softer rubber, process-driven**
New tyre tread designs	**Patent excluded by tyre manufacturers**
Pre-cured curing • Double enveloped • Temperature variance <5%	**Pre-cured curing** • Single enveloped, ring seals • Temperature variance up to 30%
Final inspection • Final inspection with grazing light • Electronic Nail Hole Detector checking	**Final inspection** • Visual only
Quality: Michelin Quality System: • Stringent process controls • Michelin auditing	**Quality:** Process under local responsability

1 Grazing Light Inspection

This technique conducted by Michelin trained technician detects subtle irregularities that may indicate internal damage.

2 Undertread Control And Buffing

To build on the best foundation with computer controlled buffing system that delivers precise crown contours and consistent undertread thickness.



3 Skiving And Repairs

Performed on Michelin designed station equipped with vacuum exhaust system, further reducing chances for contamination.

4 Michelin Retread Pre–cured Building

- Computer controlled machine allows for uniform application of the tread.
- Lasers are used to guide the tread ensuring true fitting to casing.
- Michelin manufactured bonding materials associated with tread polyester backing guarantee optimal contact between tread and casing.

5 Enveloping

Factories use an inner and outer envelope system. These are vacuum sealed and tested prior to curing. This greatly reduces the chances of any air migration.

6 Curing

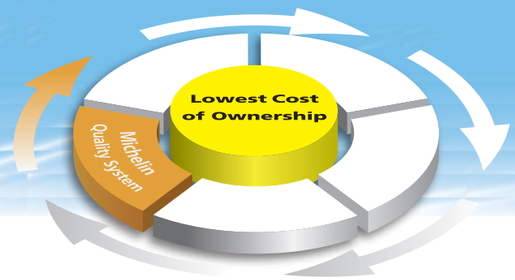
Curing process utilizing Michelin technology and specifications for concise control of time, temperature, vacuum and pressure.

7 Final Inspection

For each final product

- Visual inspection.
- Electronic Nail Hole detector : the sensitive electronic inspection system used at final inspection to ensure quality delivered.

Michelin Quality System



Quality Commitment Of Michelin Retread

The "Quality" Spirit

Quality is not a standard,

Quality is a spirit, a philosophy.

Product or service quality does not exist in its own right, i.e. solely through its specifications, but is relative to the expectations of the customers.

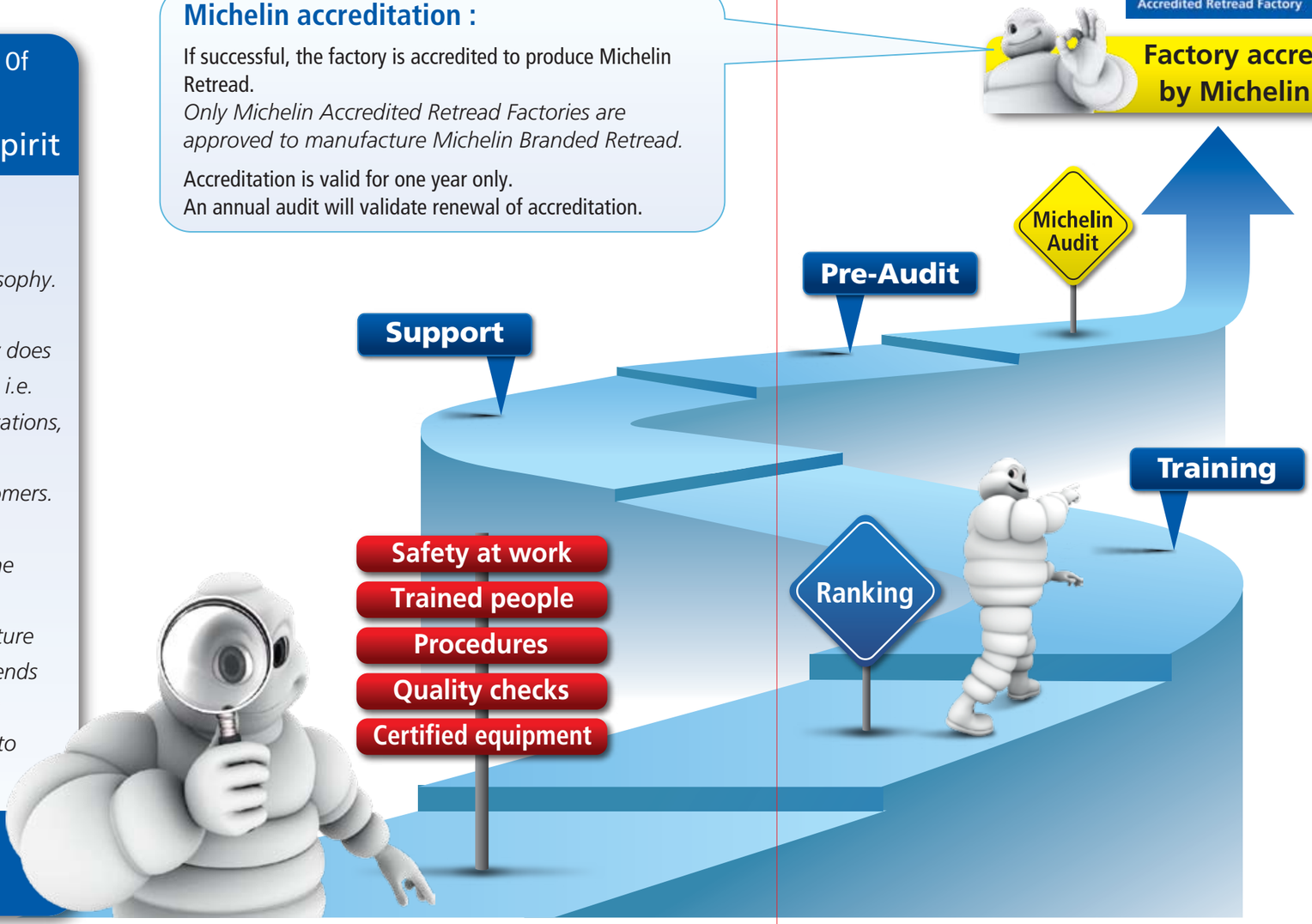
Quality concerns firstly the essential features of the product or service: its nature and its price. It then extends to its enviroment such as logistics, training, ability to listen, etc.

The sole judge of quality is customer satisfaction

Michelin accreditation :

If successful, the factory is accredited to produce Michelin Retread.
Only Michelin Accredited Retread Factories are approved to manufacture Michelin Branded Retread.

Accreditation is valid for one year only.
An annual audit will validate renewal of accreditation.



Valid for one year **ONLY**

Audit by Michelin

- Review of quality manual & process applications.
- Check achievement of corrective action plan.
- Ensure control plans are observed.

Pre-audit

- Evaluation of the Quality System.
- Deploy corrective action if necessary.

Support

- Set up of Quality System on factory floor.
- Ensure understanding of Michelin Quality System with employees.

Training

- Supported by Michelin quality training.
- Training of factory management and staff.

Safety at work

- Immediate corrective action plans.
- Daily safety checks.
- OH & S compliance.

Trained personnel

- Validation of training by Michelin.
- Continuous training and personal development.

Full compliance to Michelin process & procedures

- All procedures documented & accessible at all posts.
- Full tracking of process per tyre from start to finish.

Quality checks

- Standardized questionnaire check each stage of the process.
- Global ranking of the factory and associated corrective action plan where identified.
- Monthly check by factory management and validated by Michelin every quarter.

Equipment specified by Michelin

- Standardized high technology equipment (PLC controlled machines) for more reliability.

Dealer Network

With over 300 dealers, you can always count on Michelin.

Michelin understands you need to keep moving so your business can too. That's why we have a network of more than 300 dealers you can count on. You can also rely on Michelin Rapid Response to keep you moving 24 hours a day, seven days a week.

To find you nearest Michelin dealer call **1300 72 78 78**
or visit **http://transport.michelin.com.au**

For Your Safety

SAFETY WARNINGS

- Be sure to read the safety Information provided in the michelin truck and bus tyre service manual and herein as serious injury or death can result from failure to follow safety warnings.
- Warning: Serious or fatal injury may result from tyre failure due to incorrect selection, fitting, usage or maintenance of tyres. To ensure correct selection, fitment, usage and maintenance, refer to the Michelin Truck and Bus Tyre Service Manual (Asia Pacific Edition) - available at a Michelin tyre dealer. Please consult tyre professionals for all tyre related issues.
- Warning: Mismatching tyres for their intended usage conditions is dangerous.
  When selecting retreaded tyres, ensure that the tyre has sufficient load capacity to carry the highest load expected. Running a tyre with load capacity too low or one not properly matched in diameter can result in interior damage to the tyre which may lead to explosive failure resulting in serious injury or death. Failure to properly select a retread tread pattern to match the planned usage conditions can lead to tyre damage and result in serious injury or death. Never operate a retreaded tyre without first confirming it is suitable for the intended operating environment.
- You can download Michelin service manual at http://transport.michelin.com.au